

ISSUANCE TRANSMITTAL
SHEET

N A S A
National Aeronautics and
Space Administration

George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

| | |
|------------------------------|----------------------|
| Issuance Number: MMI 6530.1E | Date: APRIL 18, 1989 |
|------------------------------|----------------------|

Material Transmitted:

1. Management Instruction, MMI 6530.1E, Subject: "Aviation Accident Plan and Investigation"
2. This Instruction has been changed to:
 - a. Make organizational changes;
 - b. Make responsibility changes and additions; and
 - c. Add investigative guidelines (Attachment B).

Filing Instructions:

Remove MMI 6530.1D and insert the attached MMI 6530.1E.

MANAGEMENT
INSTRUCTION

N A S A
National Aeronautics and
Space Administration

George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

| | | |
|--------------------------------|--------------------------------|--------------|
| Originating Organization: CN01 | Effective Date: April 18, 1989 | MMI: 6530.1E |
|--------------------------------|--------------------------------|--------------|

Subject: AVIATION ACCIDENT PLAN AND INVESTIGATION

1. PURPOSE

To establish policy, procedure, and responsibility for implementation of a comprehensive aviation accident plan at MSFC which minimizes the extent of injury and damage due to an accident/incident/malfunction, expedites the notification of responsible parties, and provides prompt investigation.

2. APPLICABILITY

This instruction applies to all NASA aircraft (Government-owned or leased) assigned or on loan to MSFC, which are involved in an accident/incident/malfunction at or near the Redstone Arsenal or at any location off Center not in the area of responsibility of another Center regardless of where the accident/incident/malfunction occurs. This plan defines the MSFC role and responsibilities from the time an aircraft accident/incident/malfunction occurs until the investigation is completed. The requirements and procedures delineated in Attachment A should be initiated in the event an accident/incident/malfunction occurs. Any deviations from the requirements of this procedure will be approved by the Institutional Safety Office Director.

3. DEFINITIONS

- a. For the purpose of this instruction, the aviation accident plan applies to any accident/incident/malfunction involving any aircraft under MSFC's control that significantly delays or jeopardizes the safety of flight or can be categorized as a Class A, B, or C mishap.
- b. For the purpose of this instruction, the Investigative Board or Investigating Officer will be referred to as the Investigating Body.
- c. Aircraft malfunctions which have obvious safety implications and may require investigation by an Investigating Body or an Investigating Officer include:
 - (1) Landing gear malfunction which results in the failure of one or more of the gears to lock in the down position;
 - (2) Engine malfunction which results in an inflight engine shut down;
 - (3) A rapid decompression of the aircraft cabin which was not intentionally pilot induced;
 - (4) A total loss of hydraulic pressure/fluid during flight;
 - (5) A total loss of main wheel braking;
 - (6) Any structural damage or failure;
 - (7) A total inflight electrical failure;
 - (8) Any fire aboard the aircraft;
 - (9) Inability to control ailerons, rudder, or elevators; and
 - (10) Propeller failure.

- d. See MMI 1711.2, Attachment A, for further definitions.

4. POLICY

All preparations, procedures, and assigned tasks, as outlined herein, shall be implemented for effective rescue operations, reporting, and investigation procedures.

5. REFERENCES (Only applicable parts of most recent edition apply.)

- a. NHB 1700.1 (VI-A), "Basic Safety Manual"
- b. NMI 7920.1, "Management and Operation of NASA Administrative Aircraft"
- c. NMI 8621.1, "Mishap Reporting and Investigating"
- d. MMI 1711.2, "Mishap Reporting and Investigation"
- e. U.S. Army, Redstone Aviation Aircraft Emergency Operation Plan

6. CANCELLATION

MMI 6530.1D, dated July 16, 1982

Orig/s/by
James R. Thompson, Jr.
Director

Attachments:

- A. Responsibilities and Procedures
- B. Investigating Guidelines
- C. Membership of the Investigating Body

Distribution:

SDL 2
Special (CN71 - 25 copies)

ATTACHMENT A

RESPONSIBILITIES AND PROCEDURES

1. For the purpose of this attachment, an accident/incident/ malfunction involving MSFC's administrative aircraft or an aircraft under MSFC's control could occur in four discernible areas. They are: (1) at the Redstone Arsenal, (2) in the vicinity of the Redstone Arsenal (30-mile radius), (3) outside the vicinity of the Redstone Arsenal and not within the area of responsibility of another Center, and (4) within the area of responsibility of another Center.

The following responsibilities and procedures apply in the event an accident/incident/malfunction involving a NASA aircraft assigned to MSFC or on loan to MSFC occurs at any of the four areas:

- a. Contractor for the Operation and Maintenance of MSFC Aircraft will:
 - (1) Take all possible action to prevent injury to personnel and damage or loss of equipment or property; and
 - (2) Notify the Manager of Air Operations. The notification will include:
 - (a) A concise statement of the problem including the cause and essential background if available;
 - (b) Action which has been taken and is planned to be taken; and
 - (c) Possible corrective action.
 - (3) Notify MSFC's Network Control Center and alert them to begin contacting those offices listed in their notification procedures;

- (4) Secure the scene against action that could impair investigation, i.e., protect areas and configuration integrity; also, all records, logs, data books, etc.; and
- (5) In the event of an aircraft malfunction with an arrival at an airport, the aircraft will be moved from the runway and secured, if possible, in a hangar. The contractor will place a rope barrier around the aircraft and assure that no one has access to the problem area until the aircraft is released for corrective maintenance/repair by the MSFC Aircraft Safety Officer (ASO) or by the Investigating Body.

b. Manager of Air Operations will:

- (1) Coordinate activities with respect to all aircraft accidents/incidents/malfunctions for which the Center is responsible until relieved by the Investigating Body;
- (2) Assure that all possible action is taken to prevent injury to personnel and damage or loss of equipment or property;
- (3) Assure that the scene is secured against action that could impair investigation, i.e., protect areas and configuration integrity;
- (4) Assure that local, state, and FAA Authorities have been notified when appropriate;
- (5) Confirm with MSFC's Network Control Center that they have received instructions to begin their notification procedures;
- (6) Assure protection of all records, logs, data books, etc.;

- (7) Identify eyewitnesses to the accident/incident/ malfunction events;
- (8) Control access to area of the aircraft until responsibility for investigation is turned over to the Investigating Body;
- (9) Act as MSFC's point of contact should a decision be made to implement a Headquarters' investigative entity;
- (10) Ensure that copies of releasable material on accidents/incidents/malfunctions are expeditiously sent to the heads of each of the NASA flight operations (by name); and
- (11) Submit a thorough follow-up accident/incident/ malfunction report to Headquarters Aviation Management Office as soon as possible.

c. Chief, Transportation Management Division will:

- (1) Assure that proper MSFC management is notified;
- (2) Report the accident/incident/malfunction and take other necessary action in accordance with MMI 1711.2; and
- (3) Notify authorities at the Center to which the aircraft is assigned.

d. Director, Management Operations Office will:

- (1) Provide adequate and properly trained medical personnel in support of RASA Fire and Rescue Team. Dispatch these personnel to the scene of the accident/incident/ malfunction and provide any necessary assistance;

- (2) Supplement the Military Police, as necessary, with security guards, in immediate support of the Fire Chief or the MSFC Investigating Body to assist in carrying out assigned duties. Ensure that the immediate area is secure, in order to prevent any disturbance of the wreckage and to preserve any and all evidence and documents, unless removal is authorized by the Director of Safety, Reliability, Maintainability, and Quality Assurance Office;
- (3) Secure all potentially hazardous areas against entry by unauthorized personnel;
- (4) Provide photographic services at the site of the accident/incident/malfunction as requested by an investigating official. Mark photos "Restricted" and release only when directed by the Investigating Body; and
- (5) Provide classification of data, where applicable, and also restrict access to accident-sensitive areas to approved personnel only.

e. Director, Administrative Operations Office will:

- (1) If requested by the Center Director, appoint or ensure appointment of Investigating Body;
- (2) Issue directions as required to all affected organizations to support the Investigating Body; and
- (3) Act as liaison between the Investigating Body and Center management.

f. Director, Safety, Reliability, Maintainability, and Quality Assurance Office will:

- (1) Initiate action to ensure that the investigation of the accident/incident/malfunction is conducted in accordance with NHB 1700.1 (VI-A) and any other applicable safety-related directives, if the aircraft is assigned or on loan to MSFC; when the aircraft is on loan to MSFC, assure that at least one member of the Investigative Body is from the Center to which the aircraft is assigned;
- (2) Assure that evidence and documentation are impounded and safeguarded;
- (3) Perform necessary functions of MMI 1711.2; and
- (4) If the aircraft is assigned to and operated by a Center other than MSFC, take initial action in accordance with NHB 1700.1, paragraph 1908, subparagraph 6, until relieved by safety personnel from the Center to which the aircraft is assigned.

g. Director, Information Systems Office will:

- (1) Assure notification of officials and dissemination of information as specified in applicable Standard Operating Procedures;
- (2) Refer all requests for information concerning an accident/incident/malfunction to the Public Affairs Office; and
- (3) If required, activate the MSFC Mobile Communications Center (MCC) van, and report to the scene of the accident/incident/malfunction. Report to the MSFC Investigating Body, and provide communication services, as required, with other activities.

h. Director, Public Affairs Office will:

- (1) Assign an adequate number of escorts to the accident/incident/malfunction scene to assist reporters and photographers; and
- (2) Coordinate public information and press matters for accidents/incidents/malfunctions. Hold information about the accident/incident/malfunction for response to query. When an accident has caused major damage to a NASA aircraft or when passengers or crew are injured, release basic facts about the accident immediately. Generally, this news release will give such information as the type of aircraft, number of crew and passengers aboard, the departure point and destination and an initial assessment of damage or injuries. A follow-up release will give names of passengers and crew after the next-of-kin of any injured parties have been notified.

i. Chief Counsel will:

- (1) Provide legal advice and assistance to MSFC management and to the Investigating Body, including advice concerning the confidentiality of witness statements and the release of information from the investigation to outside parties;
- (2) Interface with any outside counsel who become involved with or inquire about the accident/incident/ malfunction or the investigation; and
- (3) Review the draft investigation report for legal sufficiency.

2. The following additional responsibilities and procedures apply in the event an accident/incident/malfunction involving a NASA aircraft assigned to MSFC or on loan to MSFC, occurs in the vicinity of the Redstone Arsenal (30-mile radius):

a. General

Personnel receiving the notification of an aircraft accident/incident/malfunction will ensure they request the following information:

- (1) Location of mishap;
- (2) Type and identification number of the aircraft;
- (3) Number of personnel and/or type cargo on board;
- (4) Condition of wreckage;
- (5) Facilities available for caring for injured, condition of personnel, if taken to hospital, and names, addresses, phone numbers, etc.;
- (6) Any further information which might assist in the recovery operations; and
- (7) Determine which local authorities are handling security.

Personnel receiving this information will notify the Manager of Air Operations.

ATTACHMENT A

- b. Chief, Transportation Management Division will arrange transportation requirements to the scene of the accident/incident/malfunction.
- c. Director, Management Operations Office will:
 - (1) Assure that arrangements are completed to provide adequate medical assistance at the scene of the accident/incident/malfunction; and
 - (2) Dispatch security guards to the scene of the accident/ incident/malfunction, if appropriate, in immediate support of the Investigating Body.
- d. Director, Information Systems Office will:
 - (1) Assure that arrangements are completed to provide adequate communication services at the scene of the accident/incident/malfunction; and
 - (2) Notify the rescue team to proceed immediately to the scene of the accident/incident/malfunction and report to the Investigating Body.
- 3. The following additional responsibilities and procedures apply in the event an accident/incident/malfunction involving a NASA aircraft assigned to MSFC or on loan to MFSC occurs outside the vicinity (30-mile radius) of Redstone Arsenal and not in the area of responsibility of another Center:
 - a. General

Personnel receiving the notification of an aircraft accident/incident/malfunction will ensure they request the following information:

- (1) Location of mishap and accessibility of site;
- (2) Type and identification number of the aircraft;
- (3) Number of personnel and/or type cargo onboard;
- (4) Condition of wreckage;
- (5) Facilities available for caring for injured; condition of personnel, if taken to a hospital, and names, addresses, phone numbers, etc;
- (6) Any further information which might assist in the recovery operations; and
- (7) Determine which local authorities are handling security and which are responsible for the site.

Personnel receiving this information will notify the Manager of Air Operations.

- b. Chief, Transportation Management Division will arrange transportation requirements to the scene of the accident/incident/malfunction.
 - c. Director, Management Operations Office will coordinate security with local authorities at the scene of the accident/incident/malfunction and render assistance as appropriate.
4. The following additional responsibilities and procedures apply in the event an accident/incident/malfunction involving a NASA aircraft assigned to MSFC, or on loan to MSFC occurs within the area of responsibility of another Center:
- a. General

Personnel receiving the notification of an aircraft accident/incident/malfunction will ensure they request the following information:

- (1) Location of mishap and accessibility of site;
- (2) Type and identification number of the aircraft;
- (3) Number of personnel and/or type cargo on board;
- (4) Condition of wreckage;
- (5) Facilities available for caring for injured; condition of personnel, if taken to a hospital, and names, addresses, phone numbers, etc.;
- (6) Any further information which might assist in the recovery operations; and
- (7) Determine which local authorities are responsible for the security for the site; which are responsible for the site; which are responsible for investigating the accident/incident/malfunction.

Personnel receiving the information will notify the Manager of Air Operations.

- b. The following MSFC officials are expected to maintain close communication with their counterparts at the investigating center. They are to provide assistance to their counterparts and also to the MSFC Investigating Body when requested:

- (1) Manager, Air Operations
- (2) Chief, Transportation Management Division
- (3) Director, Management Operations Office

- (4) Director, Administrative Operations Office
- (5) Director, Safety, Reliability, Maintainability, and Quality Assurance Office
- (6) Director, Information Systems Office
- (7) Director, Public Affairs Office
- (8) Chief Counsel

ATTACHMENT B

INVESTIGATING GUIDELINES

1. ACTIVATION OF INVESTIGATING BODY

The Director of the MSFC Safety, Reliability, Maintainability, and Quality Assurance Office shall initiate action to activate an Investigating Body to review an accident/incident/malfunction in accordance with applicable NHBs, NMIs, and MMIs. An Investigating Body may be activated by the MSFC Center Director at his discretion. An investigation into a Class A mishap will be directed by NASA Headquarters.

2. ORGANIZATION OF INVESTIGATING BODY

- a. When an Investigating Body is activated, the duties of each member will take precedence over all his duties.
- b. Persons other than NASA employees may serve as consultants or advisors to the Investigating Body, but not as members except for specific exceptions for government employees outside NASA when invited by the MSFC Director.
- . If an accident/incident/malfunction involves an aircraft from another Center, at least one member of the Investigating Body shall be from the Center to which that aircraft is assigned.

3. INVESTIGATING GUIDELINES

- a. All investigations are conducted to determine the cause of an accident/incident/malfunction and to recommend steps to prevent recurrence of the same. The Body involved in the investigation will document their findings, determinations, conclusions, recommendations, and the procedural methods used during the investigation.

- b. The Basic Safety Manual, NHB 1700.1 contains Guidelines for Mishap Investigation which may be referenced where useful.

4. SUPPORT FACILITIES

MSFC will be prepared to support any investigation that may be required. Necessary resources to conduct the investigation - administrative, facilities, secretarial support, sufficient communications, data access, and security systems will be made available to the Investigating Body. To the extent possible, MSFC will utilize existing facilities, organizations, and procedures for data handling and analysis.

5. DUTIES OF THE INVESTIGATING BODY CHAIRMAN

The Investigating Body Chairman will:

- a. Give notice of date and location of all applicable hearings and meetings;
- b. Obtain, in the form of a permanent record (e.g., written and signed statements of witnesses), all relevant facts pertaining to the investigation;
- c. Regulate the course and conduct of the investigation; and
- d. Determine attendance at a session in which classified evidence or other privileged information is to be introduced.

6. DUTIES OF ALL MEMBERS OF THE INVESTIGATING BODY

- a. Accept the testimony of all witnesses, which should be verbatim whenever practical; otherwise, a summary of pertinent facts is acceptable;

- b. Advise witnesses before they testify that the purpose of the investigation is to determine all facts relating to the accident/incident/malfunction and that their statements will be held in confidence to the degree permitted by law;
- c. Endeavor to assure that information pertinent to the accident/incident/malfunction, if furnished under a pledge of confidentiality, will not be used or made available through disclosure for any other purpose, to the extent permitted by law;
- d. It is not an objective of the investigation to obtain evidence for use in any personal disciplinary action against any individual, to determine pecuniary liability toward any individual or to obtain evidence for such purposes, or to put any individual's employment in jeopardy because of the accidental occurrence; and
- e. If activated, the Investigating Body will:
 - (1) Proceed to the scene of the accident/incident/ malfunction, establish a command post, coordinate all activities of MSFC personnel, and provide any assistance to local authorities and other rescue efforts;
 - (2) Maintain a written record of all information, documentation, and evidence relative to a subsequent accident investigation per MMI 1711.2;
 - (3) Take all possible action to prevent injury to personnel and damage or loss of equipment or property;
 - (4) Obtain and review contractor and NASA records pertaining to records of receipt, inspection, assembly, reliability, quality control, checkout, and any other records pertinent to the investigation;
 - (5) Obtain and review contractor and NASA procedures associated with the activity taking place at the time the accident/incident/malfunction occurred;
 - (6) Reconstruct the circumstances under which the accident/incident/malfunction could have been initiated;
 - (7) Perform interviews and obtain witness statements as soon as practical after the occurrence of the accident/incident/malfunction; and
 - (8) Review all data which may have a bearing on the accident/incident/malfunction.

7. INVESTIGATING BODY REPORTS

The findings of each aircraft accident/incident/malfunction, whether by an Investigating Body or an Investigating Official, shall be documented in a report and copies of the report shall be made available in compliance with existing instructions after the reports are forwarded and approved.

- a. The Body report shall conform to the requirements of MMI 1711.2. Body reports shall be forwarded to the convening official for review and approval within 60 days of the mishap. Seven copies of the report will be forwarded to the Aircraft Management Office at NASA Headquarters within 75 days of the mishap with a list of the corrective actions including the assigned responsibility. Additional time may be granted by the appointing authority for unusual circumstances. In such cases, the report shall be forwarded to the Aircraft Management Office within 15 days after receipt by the appointing official.
- b. The reports shall include a factual portion, an analysis portion, and a findings and recommendations section. The purpose of the investigation and the associated report is to determine what happened and what caused the accident/incident/malfunction and to recommend actions to prevent recurrences. The investigation will not be used to establish blame or for determining or assessing disciplinary actions or fiscal or legal liability.
- c. The convening official for the Investigating Body will approve the report and assure followup and closeout on all recommendations.

8. MINORITY REPORTS

If an investigator disagrees with the findings, conclusions, or recommendations of a majority of the Investigating Body, his/her nonconcurrence statement will be appended to the report and become a part of the majority report.

9. INVESTIGATION TERMINATION

The convening official will determine when the Investigating Body Report is complete and will terminate the Investigation.

MEMBERSHIP OF THE INVESTIGATING BODY

Employees named to the Investigating Body are responsible for being on duty or personally notifying the Investigating Body Chairman of their off-duty status and location in the event they plan to be away during the interval when a significant event is scheduled.

The following individuals are designated to perform investigations pursuant to this announcement:

| | <u>Working Hours</u> | <u>After Hours</u> |
|------------------|----------------------|--------------------|
| J D Horne | 544-1913 | 205-880-3395 |
| M. D. Leberman | 544-7168 | 205-881-4339 |
| K. S. Purshotham | 544-0250 | 205-881-8026 |
| C. H. Shelton | 544-6736 | 615-433-4565 |
| R. G. Sheppard | 544-5485 | 205-881-5947 |
| M. F. Dodd | 544-0059 | 205-586-8664 |

The Investigating Body shall be comprised of at least one of the above listed employees. Special assistants may also be selected/assigned to serve on the Body or to otherwise assist in the investigation of the accident/incident/malfunction. Coordination of the Body assistants will be through the Administrative Operations Office. The Aviation Safety Officer will be a participant of each investigation. In the event of a Type A aircraft accident (one that results in death or disabling injury to five or more persons, damage to equipment or property exceeding \$1,000,000, or destruction of the aircraft) NASA Headquarters will assign the Investigating Body and will request a list of qualified persons who could be assigned to the same. The MSFC Director will provide the list.